



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

**D135-751-011**  
**Job Sheet 179636**



**Part No:** D135-751-011

**Job Qty:** 1 ea

**Part Name:** Skidtube with Standard Wearplates Fits LH or RH



**Part Weight:** 0 lbs

**Status:** Scheduled

**Priority:** Medium

**Job Created:** 6/20/18

**Job Tracking No:**

**Due Date:** 8/2/18

**Created By:** Jesse White

**Type:** Stock

**Description:**

**Note:** DWG DSI 9661 REV A, D3507 REV D IPP Rev:A 44353 New Issue JLM IPP Rev:B 06-12-18 As per Rev B  
JLM IPP Rev:C 07-12-11 ECN 1036 as per revB DD IPP Rev D 08.11.04 Added DT9431 to sequence 5 EC  
verf DD IPP Rev E 10.02.22 per PAR 09-043 EC verified: DD IPP Rev:F 10.06.09 remove seq110 DD verf:EC  
IPP Rev G 10.09.17 added D3507-1-bent EC verified:DD IPP REV:H 13.12.11 ECN13-619/ CHG002 DD  
VERF:JLM

**Ship Via:**

### Bill of Materials



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
CANADA  
TEL.: 1 613 632-5200  
Email: sales@dartaero.com  
www.dartaerospace.com

**Container No:** S091314



**Part:** D135-751-011

**Job No:** 179636

**Serial No/Batch:** S091314

**Revision:**

**Inspector:**

**Exp Date:**

**Instructions:**

**Date:** 07/12/18



| Job Routing |                    |       |            |          |           |         |                       |           |             |
|-------------|--------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|-------------|
| Op No       | Operation          | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off    |
|             |                    |       |            |          | Setup hrs | Run Hrs | Workcenter / Supplier | Lead Time |             |
| 90          | Start up Operation | 1 Ea  |            | 8/2/18   | 0.00      | 0.00    | Start Up Skid tubes-1 |           | OB          |
| 120         | Skid tubes         | 1 pcs |            | 8/2/18   | 0.00      | 0.80    | Skid tubes-1          |           | OB DAS      |
| 140         | QC                 | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | QC5                   |           | 38          |
| 150         | HandFinish         | 1 pcs |            | 8/2/18   | 0.00      | 0.33    | HandFinish1           |           | SA 18-08-23 |
| 160         | QC                 | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | QC7-1                 |           | MGA         |
| 170         | Skid tubes         | 1 pcs |            | 8/2/18   | 0.00      | 1.00    | Skid tubes-1          |           | OB          |
| 180         | QC                 | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | QC10                  |           | OB 18-08-01 |
| 185         | HandFinish         | 1 pcs |            | 8/2/18   | 0.00      | 0.10    | HandFinish6           |           | SA 18-08-01 |
| 187         | QC                 | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | QC7-1                 |           | MGA         |
| 190         | Skid tubes         | 1 pcs |            | 8/2/18   | 0.00      | 0.77    | Skid tubes-1          |           | OB          |
| 200         | QC                 | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | QC5                   |           | SA 18-8-1   |
| 210         | HandFinish         | 1 pcs |            | 8/2/18   | 0.00      | 0.08    | HandFinish2           |           | SA 18-08-01 |
| 215         | Outsource          | 1 pcs |            | 8/2/18   |           |         | ATE003-VC             | 5         | MGA         |
| 220         | SprayPaint         | 1 pcs |            | 8/2/18   | 0.00      | 0.25    | Spray Paint           |           | SA 18-8-6   |
| 230         | QC                 | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | QC14                  |           | SA 18-08-02 |
| 260         | HandFinish         | 1 pcs |            | 8/2/18   | 0.00      | 0.74    | HandFinish4           |           | OB 18-08-03 |
| 270         | QC                 | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | QC5                   |           | OB 18-08-03 |
| 280         | Packaging          | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | Packaging1-1          |           | AUG 03 2018 |
| 290         | QC                 | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | QC4                   |           | OB          |
| 300         | Packaging          | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | Packaging3-1          |           | OB          |
| 305         | DC                 | 1 pcs |            | 8/2/18   | 0.00      | 0.00    | DC                    |           | AUG 03 2018 |
| 310         | QC21-FG            | 1 Ea  |            | 8/2/18   | 0.00      | 0.00    | QC21                  |           | AUG 03 2018 |

Part Op 120 - 1-Cut Aft end as per dwg D3507 3-Drill Aft & Fwd Cap holes using DT8678 & DT8901 4-Locate DT8870 & Drill Descriptions: Ground wire hole on top of Tube. 6-Locate DT8870 with #30 cleco in Ground wire hole ,then Pilot Drill all X-Bolt holes using #30" drill."\*\*\*\*DO NOT OPEN AFT CAP HOLES\*\*\*\*\* 7-Open crossbolt holes to 0.3125" (3 per side). Drill pilot holes for wearplates using Dt8868, Use DT8892 FOR REAR WEARPLATE HOLES. 8-Open six rear wearplate holes using DT8892. Open all wearplate holes to 0.297" 9-Open ground wire hole .297" section E-E 10-Open Aft & Fwd Cap holes using .208" drill. 11-Bore out aft end of tube as per Dwg D3507 & Detail "B". 12- Section G-G holes must be laid out manually, open to #30. 13-Deburr holes.

170 - 1-Open X-Bolt holes to .375" ( 1 Places) & .500" (2 Places) as per Dwg D3507. and section G-G to .750" (2 places) 2-Counter Sink X-BOLT holes as per Dwg D3507 3-Deburr and blow out chips from inside of tube. 4-Bond web as per Dwg D3507 & QSI 015 start time : \_\_\_\_\_ end time: \_\_\_\_\_ 5-Weld x-bolt spacers as per Dwg D3507 and Detail C-C & D-D and G-G 7-Drill Rivet Holes as per Dwg D3507 Using Dt8871A&B 8-Deburr Rivet holes.

185 - RE-ALODINE ONLY

190 - 1-Rivet D3506-1/-3 as per Dwg D3507.

210 - Touch-up alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

220 - 1- Apply Primer as per QSI 005 4.2.1.3.3 and dwg A/R Primer Batch: \_\_\_\_\_ 2- Paint two coats of White paint as per QSI 005 4.2 and dwg A/R Paint Batch: \_\_\_\_\_

260 - 1- Install Wearplate & Ground Wire inserts as per Dwg D3507. 1-Inspect for Foreign objects 2-Install Fwd & Aft caps as per Dwg D3507 And Detail "A" & "B" 3-Install Wearplates as per Dwg D3507 , Note:Install (1) Bolt and (1) washer on Ground Wire insert on top of tube Do not Install Scews where indicated on Dwg(Note #6) 4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube 5- Wing Walk as per Dwg D3507 and QSI 005 4.4 Batch: 1138857

300 - Identify and pack for shipping as per PPP D135-751-011 PPP Rev: \_\_\_\_\_

305 - Photocopy bluefile & type labels per PPP D135-751-011 CHG002

7:30A - To 8:00A 3200F

Sika Flex M138787 18/12



## Job BOM

| Part / Item   | Component Name          | Quantity      | Operation             | Container |
|---------------|-------------------------|---------------|-----------------------|-----------|
| D3507-1-BENT  | Skidtube Assembly EC135 | 1 Ea (1 ea)   | 90-Start up Operation | 5089120   |
| D3504-1       | Crossbolt Spacer        | 2 Ea (2 ea)   | 170-Skidtubes         | 5077412   |
| D3504-3       | Crossbolt Spacer        | 1 Ea (1 ea)   | 170-Skidtubes         | 6105604   |
| D3504-5       | Crossbolt Spacer        | 2 Ea (2 ea)   | 170-Skidtubes         | 5077543   |
| D3505-1       | Web                     | 1 Ea (1 ea)   | 170-Skidtubes         | 5084958   |
| D3506-1       | Doubler                 | 4 Ea (4 ea)   | 190-Skidtubes         | 5083350   |
| D3506-3       | Doubler                 | 2 Ea (2 ea)   | 190-Skidtubes         | 5083326   |
| MS20601-AD4W3 | Rivet                   | 12 Ea (12 ea) | 190-Skidtubes         | 5092687   |
| ALS4-1032-225 | Rivnut                  | 1 Ea (1 ea)   | 260-HandFinish        | 5058138   |
| ALS7-1032-130 | Rivnut                  | 38 Ea (38 ea) | 260-HandFinish        | 5084123   |
| AN3C4A        | Bolt                    | 31 Ea (31 ea) | 260-HandFinish        | 5080186   |
| AN3C5A        | Bolt                    | 2 Ea (2 ea)   | 260-HandFinish        | 5087153   |
| AN526C1032R10 | Screw                   | 2 Ea (2 ea)   | 260-HandFinish        | 5071664-2 |
| D2965         | Cap                     | 1 Ea (1 ea)   | 260-HandFinish        | 5045482   |
| D2965-3       | Cap                     | 1 Ea (1 ea)   | 260-HandFinish        | F126368   |
| D3492-1       | Plug                    | 4 Ea (4 ea)   | 260-HandFinish        | 5077552   |
| D3492-3       | Plug                    | 4 Ea (4 ea)   | 260-HandFinish        | 5091848   |
| D3492-7       | Plug                    | 2 Ea (2 ea)   | 260-HandFinish        | F106110   |
| D4918-047     | Wearplate Aft           | 1 Ea (1 ea)   | 260-HandFinish        | 5036145   |
| D4918-1       | Wearplate Fwd           | 1 Ea (1 ea)   | 260-HandFinish        | 5082202   |
| D4918-3       | Wearplate Center Fwd    | 1 Ea (1 ea)   | 260-HandFinish        | 5089864   |
| D4918-5       | Wearplate Center Aft    | 1 Ea (1 ea)   | 260-HandFinish        | 5089862   |
| NAS1149C0332R | Washer                  | 33 Ea (33 ea) | 260-HandFinish        | 5056493   |
| NAS1611-007   | O-Ring                  | 2 Ea (2 ea)   | 260-HandFinish        | F103697   |
| NAS1611-010   | O-Ring                  | 4 Ea (4 ea)   | 260-HandFinish        | 5049970   |
| NAS1611-013   | O-Ring                  | 4 Ea (4 ea)   | 260-HandFinish        | 5083560   |
| AN3C4A        | Bolt                    | 8 Ea (8 ea)   | 280-Packaging         | 5090636   |
| D3512-041     | Wearplate               | 2 Ea (2 ea)   | 280-Packaging         | 504113    |
| NAS1149C0332R | Washer                  | 8 Ea (8 ea)   | 280-Packaging         | 504189    |

004824

## Job Allocations

| Operation             | Component Part | Required | Inventory | Allocated |
|-----------------------|----------------|----------|-----------|-----------|
| 90-Start up Operation | D3507-1-BENT   | 1        | 0         | 0         |
| 170-Skidtubes         | D3504-1        | 2        | 28        | 0         |
|                       | D3504-3        | 1        | 26        | 0         |
|                       | D3504-5        | 2        | 14        | 0         |
|                       | D3505-1        | 1        | 4         | 0         |
| 190-Skidtubes         | D3506-1        | 4        | 17        | 0         |
|                       | D3506-3        | 2        | 8         | 0         |
|                       | MS20601-AD4W3  | 12       | 1,163     | 0         |
| 260-HandFinish        | ALS4-1032-225  | 1        | 4,460     | 0         |
|                       | ALS7-1032-130  | 38       | 1,389     | 0         |
|                       | AN3C4A         | 31       | 1,807     | 0         |
|                       | AN3C5A         | 2        | 1,655     | 0         |
|                       | AN526C1032R10  | 2        | 178       | 0         |
|                       | D2965          | 1        | 80        | 0         |
|                       | D2965-3        | 1        | 30        | 0         |
|                       | D3492-1        | 4        | 272       | 0         |
|                       | D3492-3        | 4        | 103       | 0         |
|                       | D3492-7        | 2        | 35        | 0         |
|                       | D4918-047      | 1        | 8         | 0         |
|                       | D4918-1        | 1        | 9         | 0         |
|                       | D4918-3        | 1        | 8         | 0         |
|                       | D4918-5        | 1        | 9         | 0         |
|                       | NAS1149C0332R  | 33       | 5,349     | 0         |
|                       | NAS1611-007    | 2        | 286       | 0         |
|                       | NAS1611-010    | 4        | 453       | 0         |
|                       | NAS1611-013    | 4        | 349       | 0         |
| 280-Packaging         | AN3C4A         | 8        | 1,807     | 0         |
|                       | D3512-041      | 2        | 15        | 0         |
|                       | NAS1149C0332R  | 8        | 5,349     | 0         |

**Part Specifications**

Specifications could not be found.

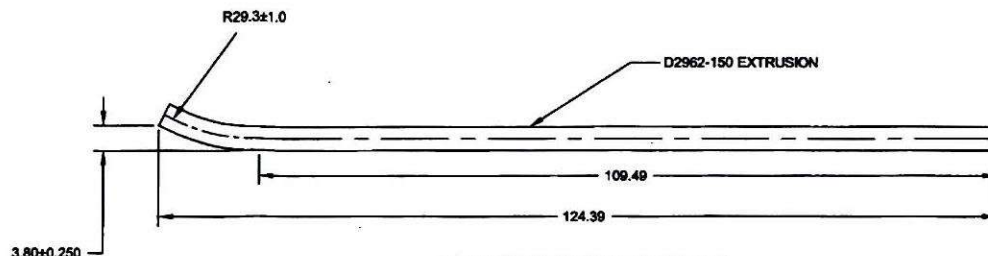
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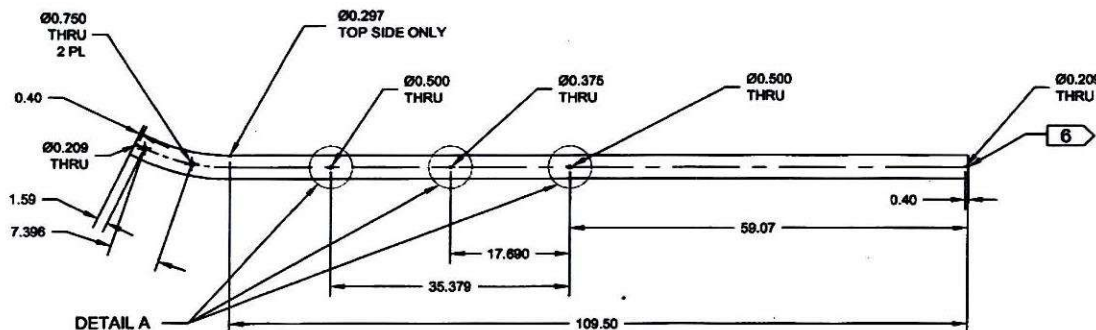
| Qty | Part Number   | Description       |
|-----|---------------|-------------------|
| X   | D3507-041     | SKIDTUBE ASSEMBLY |
| 1   | D2962-150     | EXTRUSION         |
| 1   | D2965         | CAP               |
| 1   | D2965-3       | CAP               |
| 4   | D3492-041     | PLUG ASSEMBLY     |
| 4   | D3492-043     | PLUG ASSEMBLY     |
| 2   | D3492-047     | PLUG ASSEMBLY     |
| 2   | D3504-1       | CROSS BOLT SPACER |
| 1   | D3504-3       | CROSS BOLT SPACER |
| 2   | D3504-5       | CROSS BOLT SPACER |
| 1   | D3505-1       | WEB               |
| 4   | D3506-1       | DOUBLER           |
| 2   | D3506-3       | DOUBLER           |
| 1   | D4918-1       | WEARPLATE         |
| 1   | D4918-3       | WEARPLATE         |
| 1   | D4918-5       | WEARPLATE         |
| 1   | D4918-047     | WEARPLATE         |
| 38  | AEIS-1032-130 | INSERT            |
| 1   | AEIS-1032-225 | INSERT            |
| 31  | AN3C4A        | BOLT              |
| 2   | AN3C5A        | BOLT              |
| 2   | AN526C1032-10 | SCREW             |
| 33  | AN890C10L     | WASHER            |
| 12  | MS20801AD4W3  | RIVET             |

#### GENERAL NOTES:

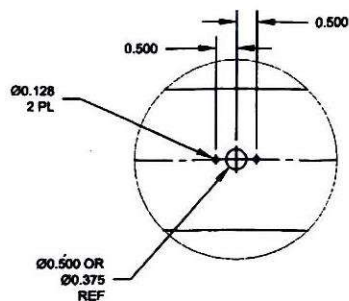
- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSERTING D3505-1 WEB.  
STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.2.  
OPTIONAL: POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3.  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.00 ABOVE CENTERLINE PER DART QSI 005 4.4 (OPTIONAL)
- 3) TOLERANCES: PER DART QSI 016 UNLESS OTHERWISE NOTED
- 4) DIMENSIONS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART BN PER DART QSI 044 8.4 (VIBRATING STYLUS) ON I.D. OF TUBE.
- 7) WEIGHT: 24.1 LB (FROM IIN-D135-751)
- 8) WELDING TO BE DONE PER DART QSI 004
- 9) INSERT D3505-1 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 AFTER BENDING
- 10) USE DART DRILL TEMPLATE DT8868 TO LOCATE AND DRILL Ø0.297 HOLES (38 PLACES) FOR WEARSHOE INSERTS. INSTALL AEIS-1032-130 PER SECTION C-C (38 PLACES) AFTER FINISH. SEAL WEARPLATE BOLTS WITH SIKAFLEX-241/291.
- 11) DO NOT INSTALL AN3C4A BOLTS AND AN890C10L WASHERS IN INDICATED LOCATIONS



**D3507-1 BENDING/CUTTING DETAIL**



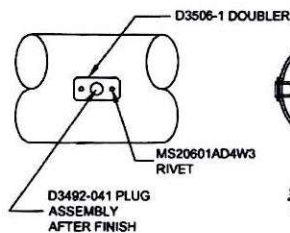
**D3507-1 DRILLING DETAIL**



**DETAIL A**  
TYP. 8 PL  
SCALE 3:10

|            |                                                                                                                     |                                                                                                                        |          |
|------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------|
| D          | REMOVE D3568-X GASKETS, D4918-X WAS D3506-X<br>REVISE FINISH TO ADD PAINT AS THE<br>PREFERRED FINISH. REVISED NOTES | DW                                                                                                                     | 13.08.30 |
| C          | ADD D3504-5, FOR SKID GEAR DEFLECTOR;<br>CHANGE FWD CAP BOLT TO AN526C1032-10 SCREW                                 | DC                                                                                                                     | 07.09.19 |
| B          | ADD GASKET, CHANGE HARDWARE MAT'L                                                                                   | PH                                                                                                                     | 06.11.01 |
| A          | NEW ISSUE                                                                                                           | PH                                                                                                                     | 06.04.21 |
| REV.       | DESCRIPTION                                                                                                         | BY                                                                                                                     | DATE     |
| DESIGN     | DW                                                                                                                  | <b>DART AEROSPACE USA, INC</b><br>KENT, WA<br>DRAWING NO. D3507<br>TITLE EC 135 SKIDTUBE<br>SCALE NTS<br>DATE 13.08.30 |          |
| DRAWN      | DW                                                                                                                  |                                                                                                                        |          |
| CHECKED    | JP                                                                                                                  |                                                                                                                        |          |
| MFG. APPR. | JP                                                                                                                  |                                                                                                                        |          |
| APPROVED   | JP                                                                                                                  |                                                                                                                        |          |
| DE APPR.   | JP                                                                                                                  |                                                                                                                        |          |
| DATE       | 13.08.30                                                                                                            |                                                                                                                        |          |

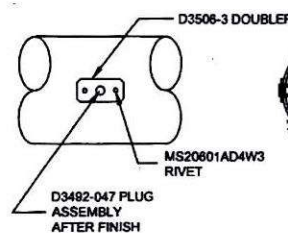
RELEASE  
2013-12-10



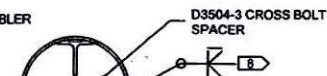
**SECTION C-C**  
(SCALE 3:10)



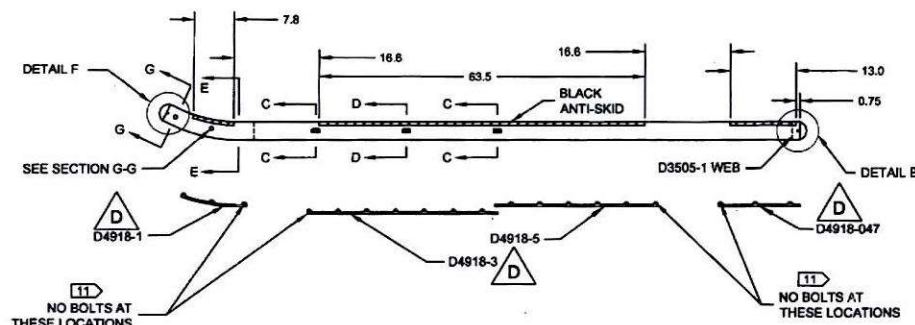
- AFTER BENDING AND DRILLING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.500 HOLES ONLY:
1. CHAMFER HOLE 0.030 x 45°
  2. INSERT D3504-1 CROSS BOLT SPACER 2 PL
  3. WELD INTO PLACE AND GRIND FLUSH
  4. IF REQUIRED, PASS Ø0.404 (J" DRILL) THRU HOLE
  5. INSTALL D3506-1 DOUBLER 4 PL USING MS20601AD4W3 RIVET 8 PL
  6. AFTER FINISH, INSTALL D3492-041 PLUG ASSEMBLY 4 PL



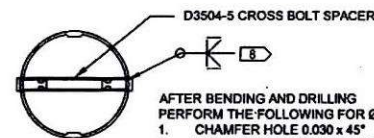
**SECTION D-D**  
(SCALE 3:10)



- AFTER BENDING AND DRILLING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.375 HOLES ONLY:
1. CHAMFER HOLE 0.030 x 45°
  2. INSERT D3504-3 CROSS BOLT SPACER 1 PL
  3. WELD INTO PLACE AND GRIND FLUSH
  4. IF REQUIRED, PASS Ø0.277 (J" DRILL) THRU HOLE
  5. INSTALL D3506-3 DOUBLER 2 PL USING MS20601AD4W3 RIVET 4 PL
  6. AFTER FINISH, INSTALL D3492-047 PLUG ASSEMBLY 2 PL

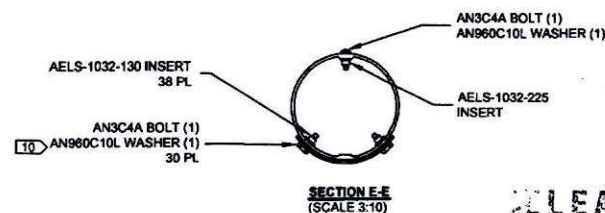
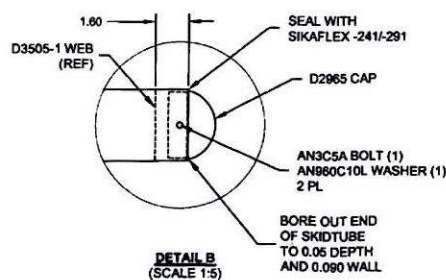
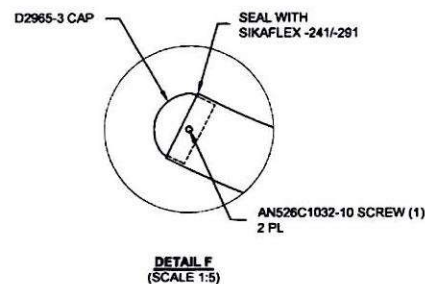


**D3507-041 ASSEMBLY DETAIL**



**SECTION G-G**  
(SCALE 3:10)

- AFTER BENDING AND DRILLING PERFORM THE FOLLOWING FOR Ø0.750 HOLES ONLY:
1. CHAMFER HOLE 0.030 x 45°
  2. INSERT D3504-5 CROSS BOLT SPACER 2 PL
  3. WELD INTO PLACE AND GRIND FLUSH
  4. IF REQUIRED, PASS Ø0.594 (19/32 DRILL) THRU HOLE
  5. AFTER FINISH, INSTALL D3492-043 PLUG ASSEMBLY 4 PL



|                                                                                                                                                                                                                                      |          |                                             |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------|--------------|
| DESIGN                                                                                                                                                                                                                               | DW       | <b>DART AEROSPACE USA, INC</b>              |              |
| DRAWN                                                                                                                                                                                                                                | DW       | KENT, WA                                    |              |
| CHECKED                                                                                                                                                                                                                              | GP       | DRAWING NO.                                 | REV. D       |
| MFG. APPR.                                                                                                                                                                                                                           |          | D3507                                       | SHEET 2 OF 2 |
| APPROVED                                                                                                                                                                                                                             |          | TITLE                                       | SCALE        |
| DE APPR.                                                                                                                                                                                                                             |          | EC 135 SKIDTUBE                             | NTS          |
| DATE                                                                                                                                                                                                                                 | 13.08.30 | COPYRIGHT © 2013 BY DART AEROSPACE USA, INC |              |
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RELEASED  
2013-12-13